

REMARKS

Claims 1 and 3 - 20 are in this application and are presented for consideration. By this Amendment, Applicant has presented each of allowable claims 2 and 5 in independent form. Specifically, claim 1 has been rewritten to include the features of allowable claim 2. Claim 5 has been written in independent form so as to be in allowable form. Claims 9 and 19 have been amended to address issues and original claim 11 and claims depending thereon are presented for reconsideration.

The drawings have been objected to as not showing each feature claimed.

The thread arrangement is shown in Fig. 1. Specifically, this is the threading or thread engagement allowing the adjustment of the cylindrical bars relative to the respective other bar and the magnetic coil body. The original drawing showed this threading and this is now indicated with a reference number which is mentioned in the specification.

The specification has been objected to because character 6 has been used to designate both a magnetic coil body and the gas cuvette support.

Applicant has made a correction to remove this issue.

Claims 9 and 19 have been objected to as containing the trademark/trade name POCAN. Applicant notes that in the present case the material provided under the name POCAN is known in the art, namely the name is associated with a particular material. Applicant has changed the claims to address this objection.

Claims 1, 6, 11 and 16 have been rejected as being obvious based on the teachings of Stark. The rejection takes the position that Stark teaches a first cylindrical housing part and

a second cylindrical housing part as well as first and second magnet coil bodies as well as the sample gas cuvette holder and the sample gas cuvette support as claimed.

The Stark reference discloses a device for measuring the concentration of a gas in which two pole pieces 6 and 7 cooperate with field coils 4 and 5. No housing structure is provided which contains these elements. It may be stated that there is no magnet coil body structure as claimed (only a magnet coil is shown and not the magnet coil bodies as claimed). However, most importantly, the first and second housings are not disclosed by Stark.

The Stark reference presents schematic showings of the various parts. However, there is no showing, schematic or otherwise, of the first and second cylindrical housing parts as claimed. These parts are quite critical to the invention in that they receive the magnet coil bodies (which in turn receive coils) and they receive the metallic bars to provide the magnetic poles. They also cooperate with the sample gas cuvette holder and sample gas cuvette support to provide the defined air gap. With the Stark reference it is absolutely clear that the structure which can be made based on the schematic feature shown will use the pole pieces to define the measuring chamber 2 (see column 4 lines 2 - 5). As such, the Stark reference fails to teach an essential feature of Applicant's invention, namely it fails to direct the person of ordinary skill in the art toward a solution of providing a precise air gap with a measuring head formed of housing bodies with the features as claimed, wherein this also provides mechanical protection. The failure to teach the first and second housing parts is significant as Applicant's invention is based on the principals of the Stark reference wherein there is a need to provide improvements both with regard to ease of forming the structure as well as a need to provide

a robust mechanical device with a precise air gap. As pointed out in the introduction (DE 100 37 380 corresponds to U.S. 6,430,987) the teachings of Stark resulted in difficulties with regard to preparing suitable coil cores for generating the necessary strong measured signal in conjunction with the sample gas cuvette formed by the pole pieces. The invention provides a combination of structural elements including the housing parts, the bars forming the pole pieces and the magnet coil bodies. The Stark reference fails to provide any suggestion which would lead the person of ordinary skill in the art toward this combination as claimed. Although Stark shows wall structure 9 which cooperates with the pole pieces that define the measuring chamber 2, these wall pieces 9 do not form a housing accommodating a magnetic coil body (no magnetic coil body is even shown) and these walls do not hold, receive or integrate with metallic bar for use as the magnetic pole. Stark directs the person of ordinary skill in the art toward a different combination of features. As such, Stark et al. fails to present suggestions for providing the combination of features claimed.

Claims 3 and 13 have been rejected based on Stark in view of Krupp and claims 7 and 17 have been rejected as obvious based on Stark in view of Meyer.

As per claim 11, the dependent claims should also be considered allowable as the Stark reference fails to suggest the combination of features as claimed. As the claimed invention includes a combination of structural features which are not suggested by the prior art as a whole, it is requested that the Examiner reconsider the rejections and favorably consider the claims as now presented.

INFORMATION DISCLOSURE STATEMENT

Applicant wishes to bring to the Examiner's attention references which have been cited in the a German Patent Office Examination Report dated March 17, 2003. Applicant is attaching the necessary Government Fee for consideration of these references at this time.

DE 20 58 633 discloses a paramagnetic gas-measuring device. The ends of a hollow cylindrical magnet are closed by closures, from which pole pieces extend toward each other with their inner ends spaced apart to form an air gap. The reference fails to teach the combination of features claimed including the first and second magnet coil bodies as specified in claim 11 with other features as claimed in combination as well as the structure of allowable claims 1 and 5. No full translation of this reference is available to Applicant at this time. However, Applicant attaches an English language abstract.

DE 34 00 140 C1 discloses a gas analyzer based on magnetic properties of a gas. The structure has a magnet with pole faces with soft-iron pole pieces 2, 3 bearing on this. The measuring chamber is formed by non-magnetic plate 1 and the pole pieces 2, 3 with a cylinder gas chamber and air gap 5. This reference fails to teach the combination of features as specified in the independent claims. No full translation of this reference is available to Applicant at this time. However, an English language abstract is attached.

EP 0 343 519 discloses an apparatus for determining the susceptibility difference between two gases. The structure has a flat measuring chamber 1 a rectangular cross section which carries gas flow and is located partially in the magnetic field 3 between two pole shoes 6 of a magnetic circuit 4. The pole shoes 6 have end faces 5 not touching the outer surface of

the measuring chamber walls. The measuring chamber 1 is mechanically uncoupled from the magnet circuit 4 such that the acoustic vibrations to the gas flow may be reduced.

Consideration of the reference is requested.

Favorable action on the merits is requested.

Respectfully submitted
for Applicant,

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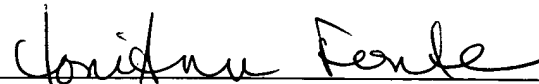
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BY:



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